Applicant: Fraser Harvie et al.

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Filed: Herewithj Page: 3 of 9 Attorney's Docket No.: 00167-490US1 FM/265US

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Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

- 1. (Original) A surgical instrument for tissue fixation comprising:
- a handpiece constructed to be held by a surgeon during a fixation procedure;
- a cannulated tube defining a lumen, mounted on the handpiece;
- a delivery device, constructed to be mounted on the handpiece, for delivering a flowable material to an opening in bone; and
- a suture control device for delivering a suture material from a supply to a distal end of the cannulated tube.
- 2. (Original) The surgical instrument of claim 1 wherein the suture control device is constructed to control the tension applied to a free end of the suture.
- 3. (Currently Amended) The surgical instrument of claim 1[[or 2]] wherein the supply of suture material is disposed within the handpiece.
- 4. (Original) The surgical instrument of claim 1 wherein said delivery device comprises a heating element for heating said material to a flowable state.
- 5. (Original) The surgical instrument of claim 4 wherein said delivery device further comprises a reservoir containing a supply of the flowable material, and said heating element is constructed to deliver heat to at least a portion of the reservoir.
- 6. (Original) The surgical instrument of claim 4 wherein the heating element is positioned adjacent at least a portion of the reservoir.

Applicant: Fraser Harvie et al. Serial No.: To Be Assigned

Filed : Herewithj Page : 4 of 9

7. (Currently Amended) The surgical instrument of claim 4[[or 5]] wherein said delivery device further comprises a delivery tube in communication with the reservoir, the delivery tube being constructed to be disposed within the cannulated tube when the delivery device is mounted on the handpiece.

- 8. (Original) The surgical instrument of claim 7 wherein the heating element is constructed to deliver heat to the delivery tube.
- 9. (Original) The surgical instrument of claim 8 wherein the heating element includes a terminal portion, adjacent a distal end of the delivery tube, which can be turned off while heat is being delivered to the remainder of the heating element, so as to allow the flowable material at the distal end of the delivery tube to solidify and shut off flow from the delivery tube.
- 10. (Original) The surgical instrument of claim 4 wherein said heating element comprises an elongated member having a tip, the tip having an area to which heat can be delivered to melt the pellet.
- 11. (Original) The surgical instrument of claim 10 wherein said delivery device further comprises a plunger tube constructed to be disposed within the cannulated tube when the delivery device is mounted on the handpiece, and the elongated member is constructed to be inserted through the plunger tube.
- 12. (Original) The surgical instrument of claim 11, wherein said delivery device further comprises a mechanism for moving said plunger tube between an extended position and a retracted position.

Applicant: Fraser Harvie et al. Serial No.: To Be Assigned

Page : 5 of 9

Filed : Herewithj

13. (Currently Amended) The surgical instrument of claim 10, 11 or 12 wherein said delivery device further comprises a mechanism for moving said elongated member between an extended position and a retracted position.

- 14. (Original) The surgical instrument of claim 13 wherein the mechanisms for moving the plunger tube and elongated member can be simultaneously activated by the surgeon, and operate counter to one another.
- 15. (Currently Amended) The surgical instrument of any of claims 4 or 7-10 claim 4 wherein said heating element comprises a metal tube and, within the tube, an insulated currentcarrying wire, the wire and tube being joined at a distal end to form a circuit, and the metal tube including a first portion having a relatively low resistance and a second, distal portion having a relatively higher resistance.
- 16. (Currently Amended) The surgical instrument of any of the preceding claims claim 1 wherein said delivery device comprises an elongated nozzle having a distal end constructed to receive a portion of suture, and a mechanism constructed to extend the nozzle out of the distal end of the cannulated tube to push the portion of the suture into the opening and to retract the nozzle after delivery of the suture.
- 17. (Original) The surgical instrument of claim 16 wherein said elongated nozzle is cannulated to provide a path for delivery of the flowable material to the opening.
- 18. (Original) The surgical instrument of claim 7 wherein, prior to initial use of the surgical instrument, the delivery tube contains a supply of the flowable material.

Applicant: Fraser Harvie et al. Serial No.: To Be Assigned

Filed : Herewithj Page : 6 of 9

19. (Currently Amended) The surgical instrument of any of the preceding claims claim 1 wherein said suture control device comprises nested tubes, surrounding the cannulated tube, which define a path for the suture from the supply to the distal end.

- 20. (Original) The surgical instrument of claim 19 wherein said nested tubes include an outer tube, and a middle tube disposed between the outer tube and the cannulated tube, and the path is defined by a groove extending longitudinally along the length of the middle tube.
- 21. (Currently Amended) The surgical instrument of any of the preceding claims claim 1 wherein said suture control device comprises a suture lock, actuatable by the surgeon, to hold the suture in place at the distal end of the cannulated tube.
- 22. (Currently Amended) The surgical instrument of any of the preceding claims claim 1 wherein said suture control device comprises a suture displacement device for controlling the position of the suture at the distal end.
- 23. (Currently Amended) The surgical instrument of any of the preceding claims claim 1 wherein said suture control device comprises a tensioning device for maintaining tension on the suture.
- 24. (Original) The surgical instrument of claim 23 wherein the tensioning device is constructed to tighten a stitch formed with the suture.

25-27. (Cancelled)

28. (Original) A surgical instrument for tissue fixation comprising: a handpiece constructed to be held by a surgeon during a fixation procedure; a cannulated tube defining a lumen, mounted on the handpiece; and

Applicant: Fraser Harvie et al.
Serial No.: To Be Assigned
Filed: Herewithj

Page : 7 of 9

a delivery device for delivering a flowable material through the lumen to an opening in bone, the delivery device comprising a heating element for heating said material to a flowable state, the heating element being constructed to heat the material after the material has been delivered, in a non-flowable state, to the opening.

29. (Original) A surgical instrument for tissue fixation comprising:
a handpiece constructed to be held by a surgeon during a fixation procedure;
a cannulated tube defining a lumen, mounted on the handpiece, the cannulated tube
including a tip portion configured to receive and carry a rigid suture carrying device; and
a heating device, disposed within the cannulated tube.

30-44. (Cancelled)

45. (Original) A method of securing a tissue to bone, comprising:
forming an opening in the bone at a first location,
delivering a flowable material, in a non-liquid state, and a suture to said opening,
heating the flowable material, in the opening, to cause the material to flow, and
allowing the flowable material to at least partially solidify and secure a portion of the
suture in the opening.

46. (Original) The method of claim 45 further comprising:

drawing a free portion of the suture that extends from the secured portion across the soft tissue to a second location,

forming a second opening in the bone at the second location,

delivering a flowable material, in a non-flowable state, and a portion of the suture to said second opening,

heating the flowable material, in the second opening, to cause the material to flow, and

Applicant: Fraser Harvie et al. Serial No.: To Be Assigned

Filed : Herewithj Page : 8 of 9

allowing the flowable material to at least partially solidify, the suture defining a stitch between the first and second locations.

47-49. (Cancelled)

50. (Original) A method of securing soft tissue to bone comprising: coupling a suture to the soft tissue so that a portion of the suture extends from the soft tissue;

forming an opening in the bone;

mounting the extending portion of the suture on a suture carring device;

inserting the suture carrying device into the opening;

delivering a flowable material, in a liquid state, to the opening; and

allowing the flowable material to at least partially solidify to secure the suture and suture carrying device in the opening.

51-61. (Cancelled)